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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/587,542	06/01/2000	Michael G. Ludy	19186-001610US	6523

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EXAMINER
BOUTAH, ALINA A

ART UNIT	PAPER NUMBER
2143	6

DATE MAILED: 05/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/587,542	LUDY, MICHAEL G.	
	Examiner	Art Unit	
	Alina N Boutah	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 June 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 June 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *5* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: the blank spaces on page 6 are not filled. Appropriate correction is required.

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: i.e. figure 1, 19, 14(1)-(3), 18(2), etc. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by *"TCP-like Congestion Control for Layered Multicast Data Transfer"* by Vicisano, Crowcroft, and Rizzo (Vicisano et al.).

Regarding claim 1, Vicisano et al. teach in a network supporting packet multicasting from a sender into the network, where hosts join and leave a multicast group by sending join and leave messages, respectively, to an access device in the network, an improvement comprising:

a plurality of layers, wherein a layer is a logical channel that carries packets for the multicast group (figure 1);

logic for distributing multicast traffic from the sender over the plurality of layers according to a sending rate associated with each of the plurality of layers (page 996, Introduction; page 997, Layered organization of data);

logic for accepting join and leave messages at the access device from the hosts, wherein the join and leave messages are associated with one or more layers of the plurality of layers (page 996, Introduction; page 997, Multicast group membership, page 998, Congestion Control for multicast layered data); and

logic for reducing the aggregate sending rate of the plurality of layers over time (pages 996-996, Relation between throughput and loss rate).

Regarding claim 2, Vicisano et al. teach the network of claim 1 further comprising logic for raising the sending rate of an unused layer (page 996, Introduction; page 997, Multicast

group membership, page 998, Congestion Control for multicast layered data; page 998, Congestion Control for multicast layered data).

Regarding claim 3, Vicisano et al. teach in a network supporting packet multicasting form a sender into the network, where hosts join and leave a multicast group by sending join and leave messages, respectively, to an access device in the network, a method comprising the steps of:

accepting multicast join messages at the access device, wherein a join message indicates that a host beyond an interface to the access device requests membership in a layer, where a layer is a logical channel over which packets are multicast to hosts that are members to a multicast group for the layer (page 996, Introduction; page 997, Layered organization of data);

transmitting multicast packets to a plurality of layers, wherein multicast packets are transmitted by the sender on a given layer at a rate approximately equal to a sending rate associated with the layer (page 996, Introduction; page 997, Layered organization of data);

accepting multicast leave messages at an access device from hosts, wherein a leave message indicates that a host requests removal from a layer indicated in the leave message (page 996, Introduction; page 997, Multicast group membership, page 998, Congestion Control for multicast layered data); and

reducing the aggregate sending rates for each of the layers over time, thereby reducing the reception rate of a host that is joined to be a fixed set of layers (pages 996-996, Relation between throughput and loss rate, page 998, Congestion Control for multicast layered data).

Regarding claim 4, Vicisano et al. teach the method of claim 3, further comprising a step of offsetting a reduced aggregate reception rate at a host due to a reduced aggregate sending rate at the sender by the host joining additional layers, if a reception rate at the host is to be maintained (pages 996-996, Relation between throughput and loss rate, page 998, Congestion Control for multicast layered data).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. United States Patent No. 6,233,017 issued to Chaddha, Navin
2. United States Patent No. 6,148,005 issued to Paul et al.
3. United States Patent No. 6,104,757 issued to Rhee, Injong
4. McCanne, S; Vetterli, M; and Jacobson, V. "Receiver-driven Layered Multicast." ACM SIGCOMM, 1996, pages 1-14.
5. Kaur, S; Madan, B; and Ganesan, S. "Multicast Support for Mobile IP Using a Modified IGMP." IEEE, 1999, pages 948-952.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alina N Boutah whose telephone number is (703) 305-5104. The examiner can normally be reached on Monday-Friday (8:30 am-5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Wiley can be reached on (703) 308-5221. The fax phone numbers for the

organization where this application or proceeding is assigned are (703) 746-9112 for regular communications and (703) 305-3718 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

ANB
May 8, 2003

DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100